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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:	) Date: March 25, 2005
Thomas J. Foth	) Attorney Docket No.: F-220
Serial No.: 09/751,604	) Customer No.: 00919
Filed: December 29, 2000	) Group Art Unit: 2157
Confirmation No.: 8551	) Examiner: Emmanuel Coffy

Title: **METHOD FOR LOAD BALANCING OF REQUESTS FOR SERVICE BY DEVICES ON A NETWORK AND A DEVICE AND A NETWORK FOR CARRYING OUT SUCH METHOD**

TRANSMITTAL OF APPEAL BRIEF (PATENT APPLICATION 37 CFR 1.192)

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

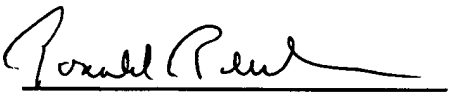
Transmitted herewith in **triplicate** is the **APPEAL BRIEF** in the above-identified patent application with respect to the Notice of Appeal filed on March 1, 2005.

Pursuant to 37 CFR 1.17(c), the fee for filing the Appeal Brief is $500.00.

Please charge Deposit Account No. **16-1885** in the amount of $500.00 to cover the above fees. The Commissioner is hereby authorized to charge any additional fees which may be required to Deposit Account No. **16-1885**.

A duplicate copy of this transmittal is enclosed for use in charging the Deposit Account.

Respectfully submitted,



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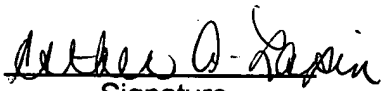


Signature

March 25, 2005
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	09/751,604	Confirmation No.: 8551
Appellant	:	Thomas J. Foth	
Filed	:	December 29, 2000	
Art Unit	:	2157	
Examiner	:	Emmanuel Coffy	
Attorney Docket No.	:	F-220	
Customer No.	:	00919	Date: March 25, 2005

Title: SENDER ELECTED MESSAGING SERVICES

APPELLANT'S BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This brief is in furtherance of the Notice of Appeal filed in this case on March 1, 2005.

This brief is transmitted in triplicate.

TABLE OF CONTENTS

This brief contains these items under the following headings and in the order set forth below:

I. REAL PARTY IN INTEREST

Pitney Bowes Inc. is the real party in interest by way of assignment from the Appellant.

II. RELATED APPEALS AND INTERFERENCES

A. An Appeal to the USPTO Board of Appeals has been filed in copending U.S. Patent Application Serial No. 09/818,480 entitled "Recipient Elected Messaging Services That Is Transported In Trays Or Tubs" may directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

B. There are no related appeals or interferences that may directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A.) Claims 1-7, 9-15, 17-24 are in the application.

B.) Claims 1-7, 9-15, 17-24 are rejected.

C.) Claims 1-7, 9-15, 17-24 are on appeal.

IV. STATUS OF AMENDMENTS

An Amendment subsequent to the December 24, 2004, Final Rejection was filed on February 16, 2005. This Amendment was not entered.

V. SUMMARY OF INVENTION

A. BACKGROUND

The subject invention relates to communication on a network among a plurality of devices requesting service and a plurality of service providers. More particularly, it relates to balancing the load of service requests among the service providers.

It is common for devices on a network to request required services from a service provider on the network. Such services may be any type of data service that is more readily carried out by a remote service provider, such as updating of databases, downloading software, remote diagnostics, or computationally intensive operations.

In networks where there is a heavy volume of service requests from a large number of devices, having a number of service providers capable of providing the requested services on the network generally will provide better response, increase reliability, and be more economical than providing a single service provider capable of handling peak loads. Such networks will be more effective if some mechanism for "load balancing" is provided. By "load balancing" herein is meant distributing requests for service substantially uniformly over the service providers on the network. Heretofore, load balancing typically has been carried out by directing all requests to a central site, which would direct the request to one of the service providers.

While effective, this method has certain disadvantages. The increase in network traffic to route all requests through a central site may cause a corresponding increase in response time. It is known for some load balancers to redirect a device that uses that address until the connection completes. In this way, the load balancer is only affected by the traffic from devices at the start of connection. Often there is more than one load

balancer in the network so that if the primary fails, the backup is discovered (by way of Domain Name Services alternates) and used. Also, such load balancing mechanisms will route requests based on the network address of the requesting device, which may not reflect the actual geographic location of the requesting device and may result in requests being serviced by a geographically remote service provider. (It is believed that the optimum service provider generally will be the geographically closest available service provider.) For these and other reasons, some networks do not provide load balancing.

Thus, it is an object of the subject invention to provide a more effective and simpler method for load balancing on a network, a device capable of carrying out that method, and a network incorporating such devices.

B. APPELLANT'S CLAIMED INVENTION

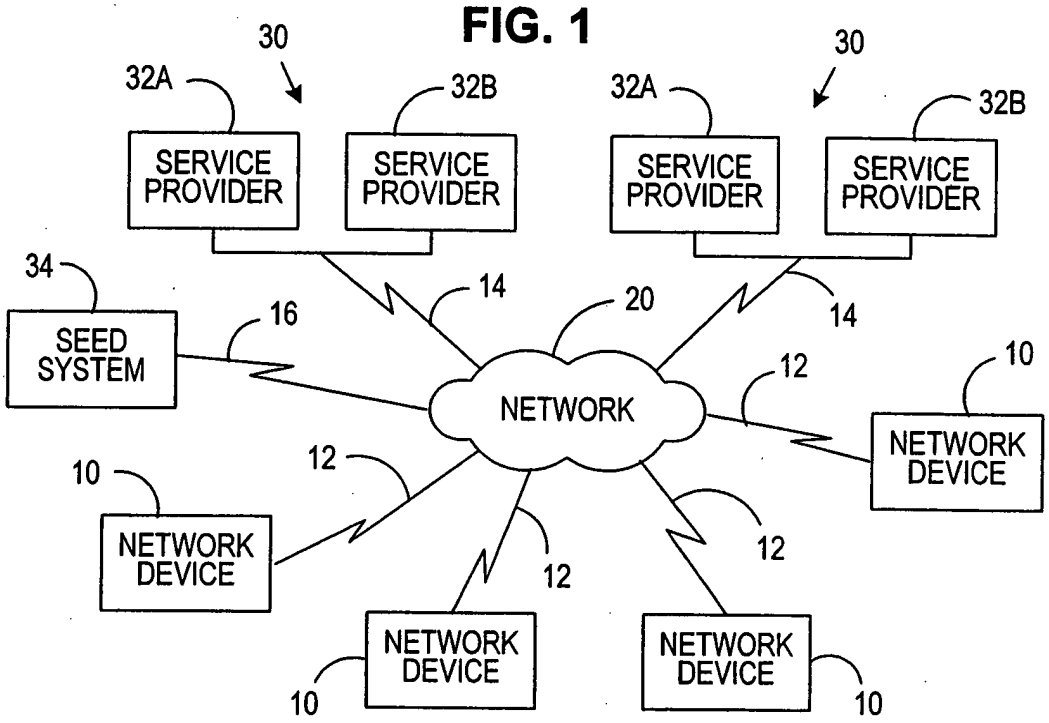
1. Claims 1, 9 and 17 are the only independent claims in this patent application. Claim 1 relates to a method for balancing the load of requests from a plurality of network devices for service from a selected one of a plurality of service providers, wherein a network interconnects the devices and the service providers. Claim 1 includes the following steps: a) in each of said devices, storing a location code indicative of geographic locations of said devices; b) in each of said devices, storing a table relating geographic location codes and network addresses for said service providers; and c) said devices being programmed so that a requesting device initiates a request by: c1) retrieving said location code for said requesting device; c2) accessing said table to retrieve a service provider address associated with a service provider

location code closest to said retrieved location code; c3) addressing said initiated request with said retrieved service provider address; and d) accessing by said devices a seed system to download an updated table if said devices cannot access the service provider retrieved from said table.

Appellant's invention is a method for balancing the load of requests from a plurality of network devices for service from a selected one of a plurality of service providers; a network connecting the devices and service providers, and a network device programmed to carry out the method. Devices and service providers communicate over the net in any convenient manner, which can include any of numerous known network architectures and compatible protocols. In accordance with the subject invention, each of the devices stores a location code indicative of geographic locations of the devices and stores a table relating geographic location codes and network addresses for the service providers. Each of the devices is programmed so that a requesting device initiates a request by: 1) retrieving the location code for the requesting device; 2) accessing the table to retrieve a service provider address associated with a service provider location code closest to the retrieved location code; and 3) addressing the initiated request with the retrieved service provider address.

In accordance with a broad aspect of the subject invention, the network device can carry out any convenient function, and the service providers can provide any convenient function. The network device may be any device which may know as a matter of its operation its geographic address.

FIG. 1



Appellants claimed invention is shown in Fig. 1 and Figs. 3A and 3B, which are described in page 4, line 17 to page 6 line 7 and – page 7 line 11 – page 10 line 22 of Appellants' Patent Application. A copy Fig.1 appears next to this page.

Figure 1 shows a plurality of network devices 10 connected by data links 12 to a communications network and a plurality of data centers 30 connected to network 20 by communications links 14. Data centers 30 include service providers 32A and 32B (hereinafter sometimes referred to generally as service providers 32) which provide services to network devices 10. In general, devices 10 can carry out any convenient function, and service providers 32 can provide any convenient service, such as updating of data bases, downloading of software, off-line computationally intensive operations and diagnostics. (It should be noted that, while various network devices 10 can have different functions and various service providers 32 can provide different services, their operations and functions are substantially identical in balancing the load created by requests for service in accordance with the subject invention.) In a preferred embodiment of the subject invention, network devices 10 include mailing devices, such as postage meters and rating scales, which determine postage amounts or shipping charges for mail pieces or packages to be shipped. Comprising of such mailing devices in a system in accordance with the subject invention is believed to be advantageous in that it is inherently beneficial to provide communications with a service provider; postage meters can more easily keep track of funds equivalents and rates used by scales can be easily updated. Further, mailing devices inherently must store the zip code of their geographical location. (Scales compute rates as a function of the origin zip code and the input destination zip code and, so, are initially programmed with the zip

FIG.3A

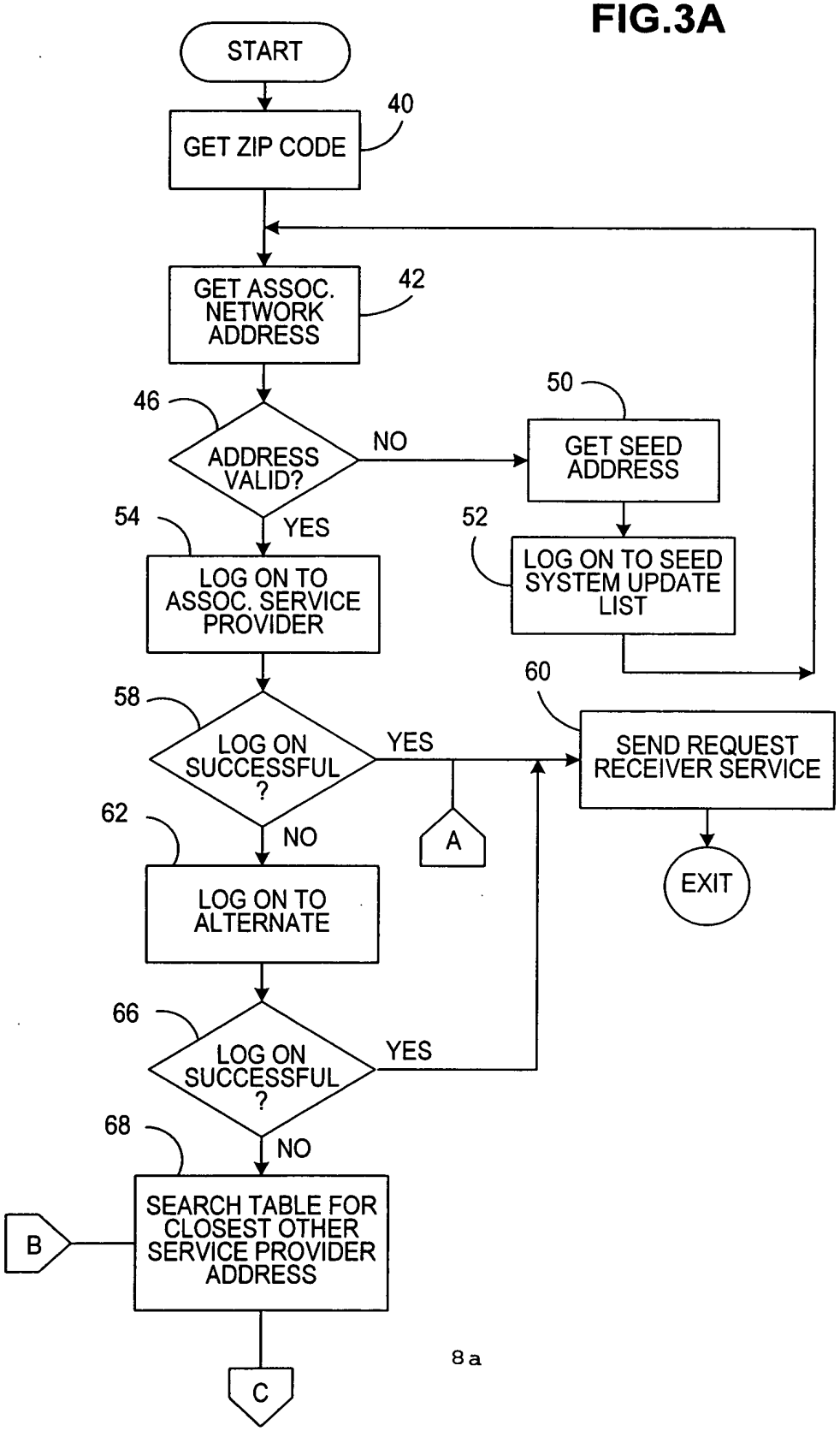
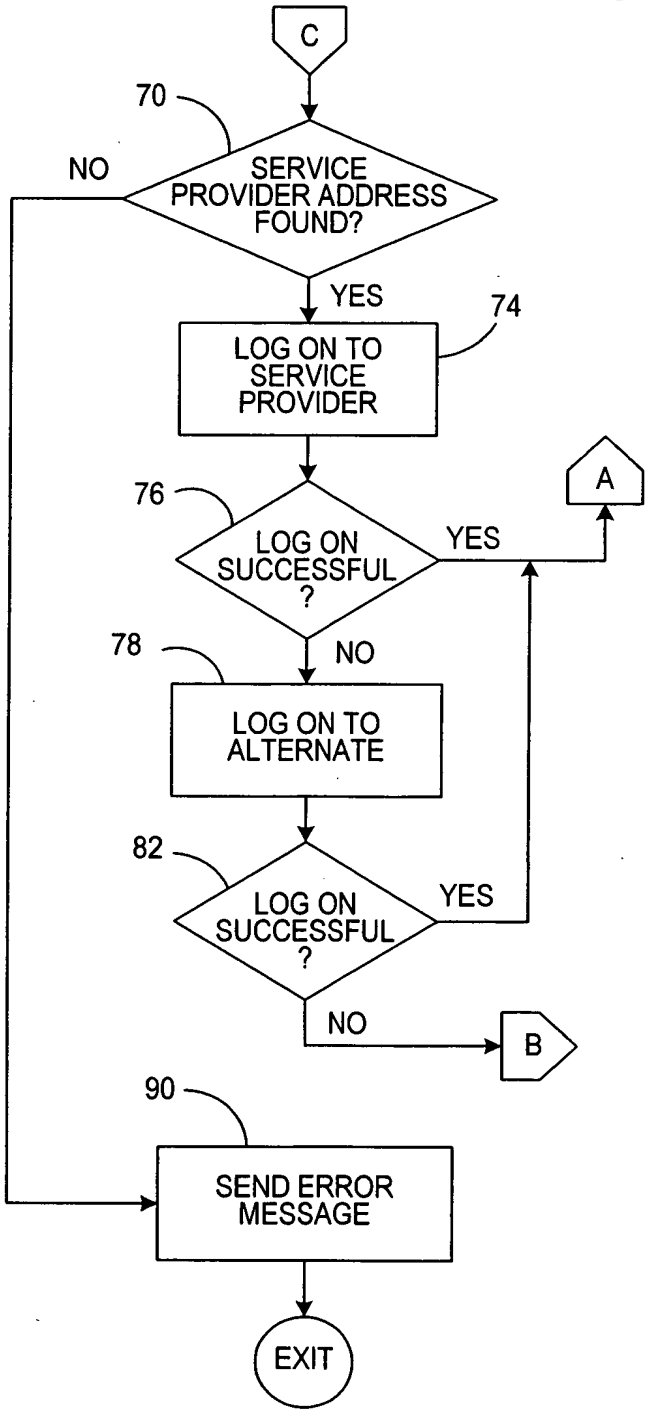


FIG.3B



code of their geographic location. Postage meters, on the other hand, are required to be used at a particular location and to store the zip code of that location. The importance of the zip code of the location at which the device is used will be explained more fully below.)

The preferred embodiment of the subject invention also includes other network devices, such as consumer appliances (refrigerators and the like) that communicate over a network, such as the Internet. Such consumer appliances may be candidate devices for this system inasmuch as they can be made aware of their location to fulfill warranty requirements. Also, cellular telephones with Internet interfaces which have a mandate to provide geographic location by the Federal Communications Commission, as well as devices on wireless networks, such as Mobitex (used by, for example, the Palm™ VII), which provide the address of the base station servicing the wireless device, are candidates for the present invention.

Figures 3A and 3B show a flow diagram of the operation of device 10 in accordance with relevant portions of the program code to request service from a service provider. At 40, device 10 retrieves the previously stored location code, which in a preferred embodiment will be a zip code but which can be any convenient code. As noted above, where device 10 is a postage meter, postal regulations require that it store the zip code of the post office at which the metered mail must be deposited (which is presumed by the system to be geographically close to the meter). Where device 10 is a rating scale, the scale requires a local zip as well as a destination zip to compute costs for distance ("zone") sensitive rates. Thus, the zip code for the geographic location of such devices will be readily available. Other methods for establishing the location code

for device 10 are also within the contemplation of the subject invention. Such methods can include, without limitation, input by the device operator, input during installation or set-up, down loading through network 20 in response to a communication, either on-line or off-line. For example, an off-line communication can be receipt of a warranty card, which would include the location of device 10 so that service can be efficiently dispatched. Where device 10 is a mobile device, it can include a Geographic Positioning System (GPS) to monitor its location. As previously stated, where device 10 is a mobile device, the base station servicing the device may furnish its fixed geographic location.

At 42, device 10 accesses table 10-1-2. Each record in table 10-1-2 relates the location code of a service provider and its network address. Preferably, the location codes are so designed that at least an approximate distance between device 10 and one of service providers 32 can be analytically computed from the respective location codes. An example of such conversion, referred to as "zip-to-zone" conversion, is described in U.S. Patent No. 4,122,526, titled CALCULATING AND POSTAL ZIP CODE-TO-POSTAL ZONE CONVERTING APPARATUS. Where location codes are fully analytical so that at least sometimes distances cannot be computed, look-up tables can be provided. Device 10 then determines the network address of the closest service provider.

At 46, device 10 then determines if the address is valid. For example, an invalid address can be indicated by receipt of a "fatal address error" message.

If the address is invalid, at 50, device 10 obtains an address for seed system 34, which communicates through network 20 over communications link 16, and at 52 logs

on to system 34 to download a current table. Seed system 34 can be a dedicated system or can be a designated one of service providers 32. Device 10 would be programmed at the factory with the seed address. If the seed address changed, device 10 can obtain the new seed system address in any convenient manner such as, for example, having an operator place an off-line service call to obtain the address and enter it through interface 10-4. Device 10 then returns to 42 to obtain a service provider address from the current table.

If the address is valid, at 54, device 10 attempts to log on to the selected one of service providers 32, and, if the log on is determined successful at 58, at 60 sends a service request to that provider and exits.

In a preferred embodiment of the subject invention, two of service providers 32 may share the network address of a data center 30. Devices 10 will be assigned to one of service providers 32 at center 30 as primary, and to the other as alternate, in any convenient manner. For example, devices 10 with even serial numbers can be assigned to service provider 32A as primary while devices 10 with odd numbers are assigned to service provider 32B.

Thus, if the log-on attempt is determined unsuccessful at 58, at 62 device 10 attempts to log on to the alternate one of service providers 32, and, if the log on is determined successful at 66, at 60 sends a service request to the alternate provider and exits.

If the log-on attempt is determined unsuccessful at 66, at 68 device 10 returns to the table to search for the next closest one of service providers 32. If at 70 device 10 determines that another service provider has been found, then at 74 device 10 attempts

to log on to its primary one of service providers 32, and, if the log on is determined successful at 76, at 60 sends a service request to the alternate provider and exits. If the log-on attempt is determined unsuccessful at 76, at 78 device 10 attempts to log-on to the alternate one of service providers 32 at the closest (and now current) network address, and, if the log on is determined successful at 82, at 60 sends a service request to the alternate provider and exits. If device 10 is unsuccessful in logging on, then at 82, it returns to 68 to search the table again. When at 70 no service provider address can be found, device 10 sends an error message and exits, or exits to some other convenient error routine.

Thus, it can be seen that the subject invention will efficiently balance the load of service requests on the network by assigning each request to the available service which is geographically closest, without requiring a central cite or other network hardware or software to assign requests. It is believed that the subject invention will thus, substantially reduce network complexity and traffic flow relating to load balancing. This scheme reduces the need for central load balancing equipment to the point where a simple system distributes new address tables only to those devices that do not have accurate tables. The devices are systematically load balanced across service providers geographically closest and further statistically load balanced to specific systems at those geographically close service provider sites. The potential for load balancer failure is eliminated inasmuch as no load balancers exist in the described system. Initial connection times are enhanced, because there is no need for initial redirection. Finally, this system is compatible with numbered addressing systems such as Internet Protocol (IP) addresses directly and does not rely on the complexity of resolving Universal

Resource Locators (URLs) or other such names. This simplifies device design and construction.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether or not claims 1, 6-9, and 14 –17 are patentable under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

B. Whether or not claims 2, 10 and 18 are patentable under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

C. Whether or not claims 3, 11 and 19 are patentable under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

D. Whether or not claims 4, 12 and 22-24 are patentable under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

E. Whether or not claims 5, 13 and 21 are patentable under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

VII. GROUPING OF CLAIMS

A. Claims 1, 6-9, and 14 –17 stand or fall together with regards to the rejection under 35 USC §102(e).

B. Claims 2, 10 and 18 stand or fall together with regards to the rejection under 35 USC §102(e).

C. Claims 3, 11 and 19 stand or fall together with regards to the rejection under 35 USC §102(e).

D. Claims 4, 12 and 22-24 stand or fall together with regards to the rejection under 35 USC §102(e).

E. Claims 5, 13 and 21 stand or fall together with regards to the rejection under 35 USC §102(e).

VIII. ARGUMENTS

A. Claims 1, 6-9, and 13 –17 have been rejected by the Examiner under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

Swildens, et al. discloses the following in column 3, lines 43-48:

> "The local DNS 113 queries the traffic management system 105 for name resolution of the customers web site and receives a response specifying the server best suited to handle the request, either customer origin servers 107 or, servers 103 located in the UDN."

Thus, Swildens balances the load by querying a traffic management system.

In Appellant's Claim 1, the load is balanced by steps c1), c2) and c3) which read as follows: c1) retrieving said location code for said requesting device; c2) accessing said table to retrieve a service provider address associated with a service provider location code closest to said retrieved location code; and c3) addressing said initiated request with said retrieved service provider address.

An advantage of Appellant's foregoing steps is that the devices of Appellant's claimed network are not burdened with the requirement for a traffic management system.

Swildens goes to a traffic management system on every request which increases his network traffic. Lines 63 of column 3 to line 1 of column 4 of Swildens reads as follows:

> "1. The client 111 requests a customer home page: www.customer.com from a local DNS 113.
> 2. The local DNS 113 queries the traffic management system 105 for name and address resolution and receives a reply 125, 127 indicating the optimal customer origin site to retrieve the homepage 131."

Appellant's step d) of claim 1 reads as follows: d) accessing by said devices a seed system to download an updated table if said devices cannot access the service provider retrieved from said table.

Thus, Appellant's claimed invention goes only to a server to download an updated table if and only if the address in the device table no longer specifies a working service provider as claimed in step d) of Appellant's claim 1.

Hence, Swildens does not disclose or anticipate the invention claimed by Appellant in claims 1, 6-9, and 13 –17.

B. Claims 2, 10 and 18 have been rejected by the Examiner under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

Claim 2 depends on claim 1, claim 10 depend on claim 9 and claim 18 depends on claim 17. Claims 2, 10 and 18, respectively, claim the network device being a mailing machine, a mailing device, and a mailing device.

The Examiner stated in pages 3 and 4 of the Final Rejection: "As to claims 2, 10 and 18, Swildens teaches the method, device and system of claims 1, 9 and 17 respectively wherein at least one of said network devices is a mailing device (see col. 17 lines 20-45).

Swildens reads as follows in column 17, lines 28-45:

> "In other aspects, the method includes performing tests. Here, the interface also contains a utility that allows the user to check a Web page from multiple locations. If an HTTP service is used, a quick status check can be executed as follows:
> 1) Access the user interface at: https://speedeye.spedera.com
> 2) In the text entry field, enter the URL for the page you want to check.
> 3) Select the locations from which you want to check the page.
> 4) Press the Check button. This causes servers at the location, or locations, selected to download the Web page associated with the URL you entered in Step 2.
>
> When the servers have completed downloading the page, the page-performance results are shown in the form of tables and graphs. The first table (see FIG. 6D) is the overall performance table. It appears at the top of the results. In this example, the page took an average of 500 milliseconds (half a second) to download from the first three locations (rows) and 1200 milliseconds (1.2 seconds) from the last location.
>
> A server name, physical location, and network location identify each location. For example, the last location in FIG. 6D is labeled as "server-4/sterling/exodus." This label identifies a server on the Exodus network located in Sterling, Va., USA."

In addition to the arguments made in above Section A, claims 2, 10 and 18, respectively, claim the network device being a mailing machine, a mailing device, and a mailing device.

Appellant's specification read as follows in lines 8-11, page 5: "In a preferred embodiment of the subject invention, network devices 10 include mailing devises, such

as postage meters and rating scales, which determine postage amounts or shipping charges for mail pieces or packages to be shipped.

Thus, Swildens does not disclose network devices that are postage meters, rating scales, etc.

C. Claims 3, 11 and 19 have been rejected by the Examiner under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

Claim 3 depends on claim 1, claim 11 depends on claim 9 and claim 19 depends on claim 17. Claims 3, 11 and 19 include a limitation wherein at least an approximate distance between two geographic locations can be calculated as a function of location codes corresponding to said two locations.

The Examiner stated in pages 3 and 4 of the Final Rejection the following: "As to claims 3, 11 and 19, Swildens teaches the method, device and system of claims 1, 9 and 17 respectively wherein at least an approximate distance between two geographic locations can be calculated as a function of location codes corresponding to said two locations (see col. 11 lines 30 – column 12 lines 30).

Column 11, line 30 to column 12, line 32 of Swildens reads as follows:

> "2. Procedures
> We now describe the procedures that can perform to set up the present CDN service and to monitor the performance of the Web site:
>
> A. Implementing the CDN;
> B. Invalidating content by controlling cache;
> C. Monitoring activity; and
> D. Performing tests.
>
> Details of each of these procedures are provided below.
> A. Implementing the CDN

To implement the CDN, the customer only need to make minor changes to the web pages in order to direct user requests to the present Web caches instead of to the origin site. In a specific embodiment, the method is as simple as changing the pointers in the HTML. When a cache gets a request for content, it will return the requested object if it exists in the cache. If the content does not exist, it will retrieve the content from the origin site and return it to the user, as well as cache the content so that subsequent requests for that object are instantly available.

To modify the site, the customer can either: (1) changing the URL; or (2) set up virtual hosting. In a specific embodiment, the site can be modified for redirecting a user requests by changing the URL in the HTML. The following example, a request for a picture, shows the original html and the revised html.

Original homepage

The original homepage contains the following URL:

http://www.customer.com/page.html

The URL contains the following HTML:

<html><body>

Here is a picture:

<img src="images/picture.jpg">

</body></html>

Revised homepage

The "img scr" tag has been revised:

<html><body>

Here is a picture:

<img src+"http://customer.speedera.net/2www.customer.com/images/picturejpb">

</body></html>

With the original configuration, a user's browser requests the picture from the customer.com Web servers:

page.html from www.customer.com

images/picture.jpg. from www.customer.com

With the revised configuration, a user's browser requests the picture from the customer.speedera.net Web servers:

page.html from www.customer.com

www.customer.com/images/picture.jpg from customer.speedera.net

Note: If the cache does not hold the requested object in memory or on disk, it makes a request to the origin site and caches it.

> In an alternative embodiment, the method can set up virtual hosting so that the user's request for content is directed to the present CDN instead of to the origin site. Here, the customer can change the DNS setup to cause the domain name to resolve to the present network cache servers instead of to the original Web server. The domain name may be changed, for example, change the domain name from www.customer.com to wwx.customer.com. The present caches in the network can be configured in a way such that when they get a request for www.customer.com content that have not cached, they can make a request to the wwx.customer.com origin site to get the content. Here, the URLs in the Web pages may not need to be changed."

Thus, Swildens' goes to a Domain Server (DNS) and looks up www.customer.com. Then, Swildens' DNS returns the address for www.customer.com.

In addition to the arguments made in above Section A, in Appellant's claim 3, an appropriate distance between two geographic locations is calculated as a function of location codes corresponding to the two locations. Appellant's does not utilize a Domain Server (DNS) or change any names.

Appellant's claimed invention utilizes a look up table to compare the device location code to the server location codes. The closest server is then picked. Now, Appellant attempts to communicate from the device closest to server 1. If Appellant cannot communicate with the device closest to server 1, Appellant downloads a new table from the table server and performs the above-mentioned steps again utilizing the look up table.

Thus, Swildens does not disclose a limitation wherein at least an approximate distance between two geographic locations can be calculated as a function of location codes corresponding to said two locations.

D. Claims 4, 12 and 20 have been rejected by the Examiner under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

Claim 4 depends on claim 3, claim 12 depends on claim 11 and claim 20 depends on claim 19. Claims 4,12 and 20 include a limitation wherein said location codes are zip codes used by a postal service.

The Examiner stated in page 4 of the Final Rejection the following: "As to claims 4, 12 and 20, Swildens teaches the method, device and system of claims 3, 11 and 19 respectively wherein said location codes are zip codes used by a postal service (see col. 17 lines 20-45).

Swildens discloses the following in column 17, lines 20-45:

> "In other aspects, the method includes performing tests. Here, the interface also contains a utility that allows the user to check a Web page from multiple locations. If an HTTP service is used, a quick status check can be executed as follows:
> 1) Access the user interface at: https://speedeye.spedera.com
> 2) In the text entry field, enter the URL for the page you want to check.
> 3) Select the locations from which you want to check the page.
> 4) Press the Check button. This causes servers at the location, or locations, selected to download the Web page associated with the URL you entered in Step 2.
>
> When the servers have completed downloading the page, the page-performance results are shown in the form of tables and graphs. The first table (see FIG. 6D) is the overall performance table. It appears at the top of the results. In this example, the page took an average of 500 milliseconds (half a second) to download from the first three locations (rows) and 1200 milliseconds (1.2 seconds) from the last location.
>
> A server name, physical location, and network location identify each location. For example, the last location in FIG. 6D is labeled

> as "server-4/sterling/exodus." This label identifies a server on the Exodus network located in Sterling, Va., USA."

In addition to the arguments made in above Section A, in Appellant's claims 4, 12, and 20, the location codes are postal zip codes, which define many different areas of cities; whereas, Swildens states in lines 44-45 of column 17 "This label identifies a server on the Exodus network located in Sterling, Va., USA." How helpful would Swildens' location code be if it stated "New York City" when there are approximately 8,000,000 people in the City? New York City has numerous zip codes.

Thus, Swildens does not disclose a limitation wherein said location codes are zip codes used by a postal service.

E. Claims 5, 13 and 21 have been rejected by the Examiner under 35 USC §102(e) as being anticipated by Swildens et al., U.S. Patent No. 6,484,143.

Claim 5 depends on claim 1, claim 13 depends on claim 9, and claim 21 depends on claim 17. Claims 5, 13 and 21 include a limitation wherein a group of said service providers share a common location code, said device addressing said initiated request to a primary service provider in said group, and said device being further programmed to address said initiated request to an alternate service provider in said group if said device cannot log on to said primary service provider.

The Examiner stated in page 4 of the Final Rejection the following: "As to claims 5, 13 and 21, Swildens teaches the method, device and system of claims 1, 9 and 17, respectively, wherein a group of said service providers share a common location code

and selected ones of those of said devices which are closest to said group address said initiated request to a primary service provider in said group; said method further comprising the step of: said selected devices addressing said initiated request to an alternate service provider in said group if they cannot log on to said primary service provider (see col. 10 lines 37-65 and col. 4 lines 62-col. 5, lines 16).

Swildens discloses the following in column 10, lines 37-65:

> "Latency problems are often aggravated by packet loss. Packet loss, common on the Internet, tends to worsen at "peering points," locations where different networks connect. One way to reduce packet loss and latency is to install content servers closer to users and ensure that when a user requests data, the request is routed to the closest available server. The present network has deployed web caches, streaming, and FTP servers throughout the Internet, on many networks close to end users. In addition, the network uses a Global Traffic Manager that routes traffic to the closest, most available and least loaded server.
>
> The network often synchronizes the content on the customer's origin site with the Web cache servers on the network. When new content is placed on an origin site and when users make requests for that content, it is automatically replicated to Web cache servers in the network. When new content is published on the origin site with a new name, it is generally immediately available from all caches in the present network. For example, the network user might add an object to the site where a similar object exists:
>
> Add www.customer.com/images/picture**2**.jpg to the same site as "www.customer.com/images/picturejpg."
>
> When a request for "picture**2**.jpg" arrives at a cache the first time, the cache in the network determines that it does not have a copy of "picture**2**jpg", and the cache will request a copy from the origin site. To keep in synchronization with the origin site, the caches periodically check the content they have cached against the copy of the content in the origin site."

Swildens discloses the following in column 4, line 62 to column 5, line 16:

> "The present system also uses one or more probes to detect information about certain criteria from the network. There are

> probes including a NetProbes, a ServiceProbe and a LatencyProbe. ServiceProbes test local server resources while LatencyProbes conduct network round trip tests to clients. Each POP in the network is assigned a ServiceProbe and a LatencyProbe – these can be separate machines but in most cases, the same machine will perform both types of probe.
>
> The NetProbes are responsible for providing the traffic management system with service and latency metrics. The metrics are reported to the DNS server and LogServers. FIG. 2 is a simplified diagram 200 of these probes according to embodiments of the present invention. This diagram is merely an example which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many variations, alternatives, and modifications. The diagram 200 includes a POP 201, which includes a NetProbes server. Service probes monitor the POP servers to test the availability and load of the services they support. The latency probe tests the round trip time between the POP and the DNS servers."

Thus, Swildens redirects the device to connect to a cache. Then the device looks for the content on the cache. If the content is missing on the cache, the cache retrieves the content from the origin system.

In addition to the arguments made in above Section A, in Appellant's claim 5, 13 and 21 Appellant will try service provider 1 at a location code. If the above fails, Appellant will try service provider 2 at the same location code.

Thus, Swildens does not disclose a limitation wherein a group of said service providers share a common location code, said device addressing said initiated request to a primary service provider in said group, and said device being further programmed to address said initiated request to an alternate service provider in said group if said device cannot log on to said primary service provider.

IX. PRAYER FOR RELIEF

Appellants respectfully submit that appealed claims 1-7, 9-15, 17-24 in this application are patentable. It is requested that the Board of Appeal overrule the Examiner and direct allowance of the rejected claims.

Respectfully submitted,

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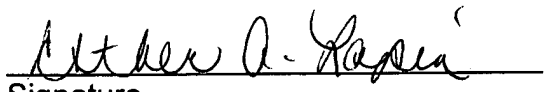

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March 25, 2005
Date

X. Claims Appendix A

1. A method for balancing the load of requests from a plurality of network devices for service from a selected one of a plurality of service providers, said devices and said service providers being interconnected by a network, said method comprising the steps of:

a) in each of said devices, storing a location code indicative of geographic locations of said devices;

b) in each of said devices, storing a table relating geographic location codes and network addresses for said service providers; and

c) said devices being programmed so that a requesting device initiates a request by:

c1) retrieving said location code for said requesting device;

c2) accessing said table to retrieve a service provider address associated with a service provider location code closest to said retrieved location code;

c3) addressing said initiated request with said retrieved service provider address; and

d) accessing by said devices a seed system to download an updated table if said devices cannot access the service provider retrieved from said table.

2. The method of claim 1 wherein at least one of said network devices is a mailing device.

3. The method of claim 1 wherein at least an approximate distance between two geographic locations can be calculated as a function of location codes corresponding to said two locations.

4. The method of claim 3 wherein said location codes are zip codes used by a postal service.

5. The method of claim 1 wherein a group of said service providers share a common location code and selected ones of those of said devices which are closest to said group address initiated a request to a primary service provider in said group; said method further comprising the step of: said selected devices addressing said initiated request to an alternate service provider in said group if they cannot log on to said primary service provider.

6. The method of claim 5 further comprising the step of: said selected devices accessing said table to retrieve another service provider address associated with a service provider location code next closest to said retrieved location code if they cannot log on to said primary or said alternate service provider.

7. The method of claim 1 further comprising the step of: said devices accessing said table to retrieve another service provider address associated with a service provider location code next closest to said retrieved location code if they cannot log on to said service provider.

9. A network device, said device receiving service from a selected one of a plurality of service providers when said device and said service providers are interconnected by a network, said device comprising:

a) a first data store storing a location code indicative of said device's geographic location;

b) a second data store storing a table relating geographic location codes and network addresses for said service providers; and

c) said device being programmed to initiate a request by:

c1) retrieving said location code for said device;

c2) accessing said table to retrieve a service provider address associated with a service provider location code closest to said retrieved location code;

c3) addressing said initiated request with said retrieved service provider address; and

d) accessing by said devices a seed system to download an updated table if said devices cannot access the service provider retrieved from said table.

10. The device of claim 9 wherein said network device is a mailing device.

11. The device of claim 9 wherein at least an approximate distance between two geographic locations can be calculated as a function of location codes corresponding to said two locations.

12. The device of claim 11 wherein said location codes are zip codes used by a postal service.

13. The device of claim 9 wherein a group of said service providers share a common location code, said device addressing said initiated request to a primary service provider in said group, and said device being further programmed to address said initiated request to an alternate service provider in said group if said device cannot log on to said primary service provider.

14. The device of claim 13 wherein said device is further programmed to access said table to retrieve another service provider address associated with another service provider location code next closest to said retrieved location code if said device cannot log on to said primary or said alternate service provider.

15. The device of claim 9 wherein said device is further programmed to access said table to retrieve another service provider address associated with another service provider location code next closest to said retrieved location code if said device cannot log on to said service provider.

17. A network comprising a plurality of network devices and a plurality of service providers, said devices receiving service from selected ones of said service providers when said devices and said service providers are interconnected by said network, said devices each comprising:

a) a first data store storing a location code indicative of that device's geographic location;

b) a second data store storing a table relating geographic location codes and network addresses for said service providers; and

c) each of said devices being programmed to initiate a request by:

c1) retrieving said location code for said device;

c2) accessing said table to retrieve a service provider address associated with a service provider location code closest to said retrieved location code;

c3) addressing said initiated request with said retrieved service provider address; and

d) accessing by said devices a seed system to download an updated table if said devices cannot access the service provider retrieved from said table.

18. The network of claim 17 wherein at least one of said devices is a mailing device.

19. The network of claim 17 wherein at least an approximate distance between two geographic locations can be calculated as a function of location codes corresponding to said two locations.

20. The network of claim 19 wherein said location codes are zip codes used by a postal service.

21. The network of claim 17 wherein a group of said service providers share a common location code, selected ones of those of said devices which are closest to said group addressing said initiated request to a primary service provider in said group; said selected devices being further programmed to address said initiated request to an alternate service provider in said group if they cannot log on to said primary service provider.

22. The network of claim 21 wherein said selected devices are further programmed to access said table to retrieve another service provider address associated with another service provider location code next closest to said retrieved location code if they cannot log on to said primary or said alternate service provider.

23. The network of claim 17 wherein said devices are further programmed to access said table to retrieve another service provider address associated with another service provider location code next closest to said retrieved location code if they cannot log on to said service provider.

24. The network of claim 17 wherein said devices are further programmed to access a seed system to download an updated table if said table becomes invalid.